

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : **TOYOTA MOTOR CORP**

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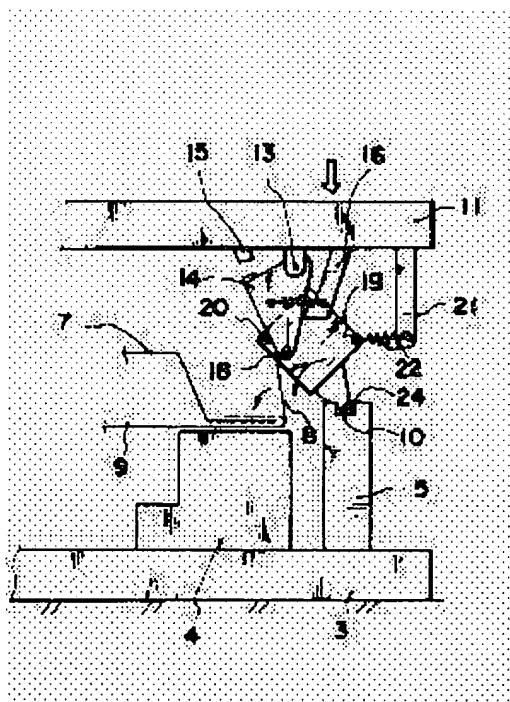
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(54) HEMMING APPARATUS

(57)Abstract:

PURPOSE: To successively perform the preclinching action and the hemming action, to simplify the mechanism, and to improve the efficiency, by providing the upper die with a single edge for the common use of the preclinching edge and the hemming edge.

CONSTITUTION: The works 7, 9 are put on the main body 4, of the lower die and the ram is brought down; hereby, the edge 19 for the common use hits the flange 8 of the outer panel 9 of the door and preclinches it. With the downward movement of the upper die 11, the pivot 24 of the edge 19 fits into the holding part 10 of the holding stopper 5 and forms a fulcrum; as the upper die 11 further goes down, the press force of the pin 13 of the upper die 11 and the resisting force of the pivot 24 effect



a couple of force, and the edge 19 continues the preliminary bending work. During this period, the edge 19 leans forward, the link 14 turns toward the right hand and departs from the stopper 16; when the link 14 hits the stopper 15, the preclinching action is ended and the press force of the upper die 11 gives a stronger couple of force to the edge 19, which then starts the main hemming action. The edge 19 bends the flange 8 around its root, and the flange 8 is overlapped upon the hammed edge of the door's inner panel 7; hereby, the folded hemming is completed.

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